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## RAW SEQUENCE LISTING

DATE: 07/05/2001

PATENT APPLICATION: US/09/747,007

TIME: 11:18:49

Input Set : A:\PTO.txt

Output Set: N:\CRF3\07052001\I747007.raw

ENTERED

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3 <110> APPLICANT: Ouellet, Therese
4     Miki, Brian
5     Foster, Elizabeth
6     Martin-Heller, Teresa
7     Tian, Lining
8     Brown, Daniel C
9     Zhang, Peijun
10    Hattori, Jiro
11    Malik, Kamal
12    Wu, Keqiang
14 <120> TITLE OF INVENTION: Translational Regulatory Elements
16 <130> FILE REFERENCE: 08-885707us
C--> 18 <140> CURRENT APPLICATION NUMBER: US/09/747,007
C--> 19 <141> CURRENT FILING DATE: 2001-06-21
21 <160> NUMBER OF SEQ ID NOS: 21
23 <170> SOFTWARE: PatentIn Ver. 2.1
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 2224
27 <212> TYPE: DNA
28 <213> ORGANISM: Nicotiana tabacum
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33 gtcaaaaggg aacttcaccc tcctagttct ttatttccaa catacatggg gagtaatgct 180
34 aaatttacat agaagaataa taaaatgaac tgtaactaat gatgtactgt tccaaagaga 240
35 tgaggacgtc aacatattta ttccttcagc ccttttcaga ataataccat aagtagaaga 300
36 aatggcacat aaaatgaagt cctcggcaag tcaaagttaa atctgaaccc acccagctaa 360
37 cccagtgaac tcaactttcc tggatagatc agcaactcct catgacattg catgccttct 420
38 ctttaaagag ccgcttgatc tctgaaaacc aatgaatct ccacagagag atttcgagct 480
39 ccatgagacg ccttttggtt cttgatattac taaacctata aaaatgaaag gaagtaggac 540
40 aactgcattt tgccgcttaa gatgcttcgg cgctttgtga attttaagtc atgagaaagt 600
41 acaatggttg aatctcacat tagaacaatg tatttgtaat aacctaggaa agcaaagcta 660
42 gaagggaggt gcagctaaat cttctttctac cttgttatcc ttgcatttct tgaggaggag 720
43 gaactgtcct cgcaggtgca aaatctgcag tcgccccaaa ggatattcag aagtatatta 780
44 caacatgttt aatggttaac caagtgaag atcaaaatag tcattagaac aaaatgcgtg 840
45 ctgagagcgt atctactagt tcatcaaccc agtacacatc tctgaatttc atctcttgcc 900
46 gttgaactaa gtcaattggt caaagacgca taacatgaga gacactcata aaacggctga 960
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48 tgctccttca gtttgactag aaatgaaaaa tcagttaagc ctgtaacgaa atgataacct 1080
49 gcttcaagaa gattagacta tttttcataa aatatgcagt gccgtgaaat agatacttaa 1140
50 tcttaggcag gaaaaatctt ctattgggcc ataataagaa ctaccaatta gaaaggaggt 1200
51 agaaagctcc gatactgtta tgaaggccat tctaagtgt gatgtgaatt tcccaatata 1260
52 aatgacaac aaaaacaaaa gcctcaatcc taagctagtt ggggtcgcta tataaatcct 1320
53 cgacatccat ttaactccac ttggaactct ttctttccaa tattttaata ttggttagatt 1380
54 aatcataaaa ttgcttagct ttctactggc acttaacct ctgcaacct cctcttctgg 1440
56 gattccaaca caaacaacta agaggaatgt gaaaaaaga aagcaaatgt gagaagagac 1500
57 aaaatgtaca atgataacct ttcttgcagc aaaggaggca ggttctctgc tgagacaagg 1560

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58 ttctctatatt cctgcaagac cttcgtatct tttattcgag accatgtatg tggaggtaac 1620
59 gccagcaata gtgctgtcag cacatcgttg cttgcagggg atcttctgca agcatctcta 1680
60 tttcctgaag gtctaacctc gaagatttaa gatttaatta cgtttataat tacaaaattg 1740
61 attctagtat ctttaattta atgcttatac attattaatt aatttagtac tttcaatttg 1800
62 ttttcagaaa ttattttact attttttata aaataaaagg gagaaaatgg ctattttaa 1860
63 actagcctat tttatttcaa ttttagctta aaatcagccc caattagccc caatttcaaa 1920
64 ttcaaatggg ccagcccaat tcctaaataa cccacccta acccgcccg tttcccttt 1980
65 tgatccaggc cggtgatcat tttgatcaac gcccagaatt tccccttttc cttttttaat 2040
66 tcccaaacac ccctaactct atcccatttc tcaccaaccg ccacatatga atcctcttat 2100
67 ctctcaaaact ctctgaacc ttcccctaac cctagcagcc tctcatcacc ctcacctcaa 2160
68 aaccaccgg aatacatggc ttctcaagcc gtggaaacct tatactcacc tccctttgct 2220
69 cttta 2224

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72 &lt;210&gt; SEQ ID NO: 2

73 &lt;211&gt; LENGTH: 188

74 &lt;212&gt; TYPE: DNA

75 &lt;213&gt; ORGANISM: Artificial Sequence

77 &lt;220&gt; FEATURE:

78 <223> OTHER INFORMATION: Description of Artificial Sequence: NdeI-SmaI  
 79 fragment of tCUP (T1275)

81 &lt;400&gt; SEQUENCE: 2

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82 catatgaatc ctcttatctc tcaaaactctc tcgaaccttc ccctaaccct agcagcctct 60
83 catcatcctc acctcaaac ccaccggaat acatggcttc tcaagccgtg gaaaccttat 120
84 actcacctcc ctttgctctt acagtactcg gccgtcgacc gcggtaccg ggtgggtcag 180
85 cccttatg 188

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88 &lt;210&gt; SEQ ID NO: 3

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91 &lt;213&gt; ORGANISM: Artificial Sequence

93 &lt;220&gt; FEATURE:

94 <223> OTHER INFORMATION: Description of Artificial Sequence: delta N with  
 95 Kozak sequence

97 &lt;400&gt; SEQUENCE: 3

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98 agatctatcc tcttatctct caaactctct cgaaccttcc cctaacccta gcagcctctc 60
99 atcatcctca cctcaaaacc caccggccac catggcctct agaggacccc ggtgggtcag 120
100 tcccttatg 129

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103 &lt;210&gt; SEQ ID NO: 4

104 &lt;211&gt; LENGTH: 119

105 &lt;212&gt; TYPE: DNA

106 &lt;213&gt; ORGANISM: Artificial Sequence

108 &lt;220&gt; FEATURE:

109 <223> OTHER INFORMATION: Description of Artificial Sequence: deltaN without  
 111 Kozak sequence

113 &lt;400&gt; SEQUENCE: 4

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114 agatctatcc tcttatctct caaactctct cgaaccttcc cctaacccta gcagcctctc 60
115 atcatcctca cctcaaaacc caccggctca gaggatcccc ggtgggtcag tcccttatg 119

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118 &lt;210&gt; SEQ ID NO: 5

119 &lt;211&gt; LENGTH: 23

120 &lt;212&gt; TYPE: DNA

121 &lt;213&gt; ORGANISM: Artificial Sequence

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123 <220> FEATURE:
124 <223> OTHER INFORMATION: Description of Artificial Sequence: Linker 1
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131 <211> LENGTH: 24
132 <212> TYPE: DNA
133 <213> ORGANISM: Artificial Sequence
135 <220> FEATURE:
136 <223> OTHER INFORMATION: Description of Artificial Sequence: Linker 2
138 <400> SEQUENCE: 6
139 atctctcaaa ctctctcgaa cctt 24
142 <210> SEQ ID NO: 7
143 <211> LENGTH: 18
144 <212> TYPE: DNA
145 <213> ORGANISM: Artificial Sequence
147 <220> FEATURE:
148 <223> OTHER INFORMATION: Description of Artificial Sequence: Linker 3
150 <400> SEQUENCE: 7
151 ttcccctaac cctagcag 18
154 <210> SEQ ID NO: 8
155 <211> LENGTH: 24
156 <212> TYPE: DNA
157 <213> ORGANISM: Artificial Sequence
159 <220> FEATURE:
160 <223> OTHER INFORMATION: Description of Artificial Sequence: Linker 4
162 <400> SEQUENCE: 8
163 atcatcctca cctcaaaacc cacc 24
166 <210> SEQ ID NO: 9
167 <211> LENGTH: 24
168 <212> TYPE: DNA
169 <213> ORGANISM: Artificial Sequence
171 <220> FEATURE:
172 <223> OTHER INFORMATION: Description of Artificial Sequence: Linker 5
174 <400> SEQUENCE: 9
175 agcctctcat catcctcacc tcaa 24
178 <210> SEQ ID NO: 10
179 <211> LENGTH: 602
180 <212> TYPE: DNA
181 <213> ORGANISM: Nicotiana tabacum
183 <220> FEATURE:
184 <223> OTHER INFORMATION: RENT 1
186 <220> FEATURE:
187 <223> OTHER INFORMATION: where n is A, T, G or C
189 <400> SEQUENCE: 10
190 aattgtaagc gggataacaa tttcacacag gaaacagcta tgaccatgat tacgccaagc 60
191 ttttaatacg actcactata gggaaagctt ataattacaa aattgattct agtattttta 120
192 atttaatat tttacattat taattaattt agaagtttta attttttttc agaaatcatt 180
193 ttactatttt tataaaaaca aaagggaaaa gtgggttattt aaatactagc cctatttcat 240

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Input Set : A:\PTO.txt

Output Set: N:\CRF3\07052001\I747007.raw

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194 ttcaattata gcctaaaatc agccccaatt aaccccaatt ccaaattcaa acgggccagc 300
195 ccaattccta aaatgaccgc ctctaaccgc gcttttccaa cccgcccgtt ttcccctttt 360
196 gatccaggct gttgatcatt ttgatcaacg gccagaattt cccctttcct ttttaattcc 420
197 caaacacccc ccaaccttat cccgtttctc accaaccgcc agatctatcc tcttatctct 480
198 caaactctct cgaaccttcc cctaacccta gcagcctctc atcatcctca cctcaaaacc 540
W--> 199 caccggccac catggcctct agaggatccc cgggtggtca gtccccttatg ttacgtccctn 600
200 aa 602
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204 <211> LENGTH: 610
205 <212> TYPE: DNA
206 <213> ORGANISM: Nicotiana tabacum
208 <220> FEATURE:
209 <223> OTHER INFORMATION: RENT 2
211 <400> SEQUENCE: 11
212 atgttggtg gaattgtgag cgggataaca atttcacaca ggaaacagct atgaccatga 60
213 ttacgccaaag ctctaatacg actcactata gggaaagctt ataattacaa aattgattct 120
214 agtattttta atttaatat tatacattat taattaactt agtactttca attcgttttc 180
215 aaaaattatt ttactatttt ttgtaaaata aaaggagaa aatggctatt taaatactag 240
216 ccctatttta ttcaattttt agcctaaaat cagcccccaa ttaaccccaa tttcaaattc 300
217 aaatgggaca gcccaattcc taaaataacc cgcccctaac cctcttatcc aaccacccgc 360
218 atttcccctt ttgatccagg ttgttgatca ttttgatcaa cgaccagaat ttccccttcc 420
219 ctgtttttta ttcccaaaca ccccccaacc ctatcccatt tctcaccaac cgccagatct 480
221 atcctcttat ctctcaaact ctctogaacc ttcccctaac cctagcagcc tctcatcctc 540
222 ctcacctcaa aaccacccgc ccaccatggc ctctagagga tccccgggtg gtcagtcctc 600
223 tatgtgcgtc 610
226 <210> SEQ ID NO: 12
227 <211> LENGTH: 507
228 <212> TYPE: DNA
229 <213> ORGANISM: Nicotiana tabacum
231 <220> FEATURE:
232 <223> OTHER INFORMATION: where n is A, T, G or C
234 <220> FEATURE:
235 <223> OTHER INFORMATION: RENT 3
237 <400> SEQUENCE: 12
238 ttgattctag tttttttaat ttaatattta tacattatta attaatttag ttctttcaat 60
239 ttgttttcag aaattatttt actatttttt ataaaataaa agggagaaaa tggctattta 120
240 aataccagcc ctattttatt tcaattttta ctaaaaatca gcccagttta gcccacaaacg 180
241 gcccatccca attcctaaaa taactcgccc ctaaccgcgt tatccaaccc gcccggttcc 240
242 ccttttgatc caggccggtg atcattttga tcaacgacca gaatttcccc ttctcttttt 300
243 taattcccaa acaccgcaa acctatccca ttctcacca accgccagat ctatcctctt 360
244 atctctcaa ctctctgaa cctctcccta accctagcag cctctcatca tcctcacctc 420
W--> 245 aaaacccacc ggccaccatg gcctctagag gatccccggg tggtcagtcct cttatgtnac 480
W--> 246 gncctaaatg nccgncctgn nnnnnnc 507
249 <210> SEQ ID NO: 13
250 <211> LENGTH: 599
251 <212> TYPE: DNA
252 <213> ORGANISM: Nicotiana tabacum
254 <220> FEATURE:
255 <223> OTHER INFORMATION: RENT 5

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## RAW SEQUENCE LISTING

DATE: 07/05/2001

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TIME: 11:18:49

Input Set : A:\PTO.txt

Output Set: N:\CRF3\07052001\I747007.raw

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257 <400> SEQUENCE: 13
258 ggaattgtga gcgataaca atttcacaca ggaaacagct atgaccatga ttacgccaag 60
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260 atttaatat tatacattat taattaattt agtactttca atttgttttc agaaatcatt 180
261 ttactatggt ttataaaata aaagggagaa aatggctatt taaatactag ccctatttta 240
262 ttccaatttt agcctaaaat cagccccaat taacccttat ttcaaattca aacgggctag 300
263 cccagttcct aaaataacc cccccaatcc cgttatcca acccgccctg tttccctttt 360
264 tgatccaggc cgttgatcat ttgatcaac gaccaaatt tcccttttc tttttaatt 420
265 cccaaacacc cccaacccta tcccatctt caccaaccgc cagatctatc ctcttatctc 480
266 tcaaactctc tcgaaccttc ccctaaccct agcagcctct catcatctc acctcaaac 540
267 ccaccggcca ccatggcctc tagaggatcc ccgggtggtc agtcccttat gttacgtcc 599
270 <210> SEQ ID NO: 14
271 <211> LENGTH: 616
272 <212> TYPE: DNA
273 <213> ORGANISM: Nicotiana tabacum
276 <220> FEATURE:
277 <223> OTHER INFORMATION: where n is A, T, G or C
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280 <223> OTHER INFORMATION: RENT 7
282 <400> SEQUENCE: 14
283 tttatgcttc cggctcgat gttgtgtgga attgtgagcg gataacaatt tcacacagga 60
284 aacagctatg accatgatta cgccaagctc taatacgact cactataggg aaagcttata 120
285 attacaaaat tgattatagt acttttaatt taatatttat acattattaa ttaatttagc 180
286 actttcaatt tattttcaga aaccatttta ctatttttta taaaataaaa gggacaaaat 240
287 ggctatttaa ataccaacac tattttatct caatttttagc ctaaaatcaa acccaattaa 300
288 cccaaacgg gccagcccaa ttcttaaaac aaccgcgcc taaccgcctt atccaaccgc 360
289 cccgatttcc tcttttgatc caggcgttg atcattttga tcaacggcca gaatttcccc 420
290 tttccttttt tcattcccaa acaccccaa acctatccca tttctacca accgccagat 480
291 ctatcctctt atctctcaaa ctctctcgaa ccttcccta accctagcag cctctcatca 540
292 tcctcacctc aaaacccacc ggccaccatg gcctctagag gatccccggg tggtcagtcc 600
W--> 293 cttatgttac gtcctn 616
296 <210> SEQ ID NO: 15
297 <211> LENGTH: 24
298 <212> TYPE: DNA
299 <213> ORGANISM: Artificial Sequence
301 <220> FEATURE:
302 <223> OTHER INFORMATION: Description of Artificial Sequence: SCAN 1
304 <400> SEQUENCE: 15
305 aagactcaaa ctctctcgaa cctt 24
308 <210> SEQ ID NO: 16
309 <211> LENGTH: 24
310 <212> TYPE: DNA
311 <213> ORGANISM: Artificial Sequence
313 <220> FEATURE:
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316 <400> SEQUENCE: 16
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320 <210> SEQ ID NO: 17
321 <211> LENGTH: 24

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## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/747,007

DATE: 07/05/2001

TIME: 11:18:50

Input Set : A:\PTO.txt

Output Set: N:\CRF3\07052001\I747007.raw

L:18 M:270 C: Current Application Number differs, Replaced Application Number  
L:19 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:199 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:10  
L:199 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:10  
L:199 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:245 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:12  
L:245 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:12  
L:245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:246 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:12  
L:246 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:12  
L:246 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:259 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:13  
L:259 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:13  
L:259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13  
L:293 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:14  
L:293 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:14  
L:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14